

the chaffy scales of the original buds, form a small collection of loose rubbish at the base of the shoot.

The sprays first given to the butterflies, up to the 16th, had these chaffy remains fairly adherent, those given on the 16th had a number of the flowering shoots cleared of these. These first eggs were laid in the angle between the young shoot at its origin and the parent twig. It was plain that the butterflies would not lay on the old wood, nor on the scales and rubbish that had to fall off, and would of course carry the egg with them. Nor would they lay on the young green shoot, its leaves, or fruit. At a later date, when the leaves were well grown, they laid freely enough in the axils of the leaf-stalks, and afterwards on the undersides of the leaves themselves. I am inclined to believe that these solitary eggs would be very apt to be loosened and to fall off if laid on any part of the young green shoots that were in extremely rapid expansion and growth.

On May 3rd I saw a *L. celtis* lay an egg naturally (*i.e.*, not in captivity). It laid it in the axil of the petiole of a leaf that was about three-quarters of an inch long, the last but one on a shoot (not a flowering one) with four or five leaves; a second was laid in a precisely similar situation.

The egg when first laid is whitish or greenish-white, with a pearly lustre. In a day or two it becomes brownish-pink, harmonising with the neighbouring bark, and is thus well hidden.

Already, by April 20th, the eggs were largely laid on leaves, a count giving 2 in axils at base as the first eggs, 11 in axils of leaf stalks, and 43 beneath leaves of which there were already many of nearly full size. This, of course, in captivity.

The egg is 0.7mm. high and 0.5mm. broad, narrowing a little upward, flattened below and somewhat rounded on top. It has about 34 marked upright ribs, and the transverse secondary ribs are quite pronounced.

The accompanying photographs will give some idea of its form and structure. There are two eggs magnified 13 diameters, and three magnified 20 times.

Fig. 3, Plate xiii., shows the top of the egg-shell and the micropylar area magnified 300 times. Fig. 5, Plate xiv., gives perhaps a better view of the micropyle, also $\times 300$. Fig. 4 is a portion of the egg-shell magnified by 120. Fig. 5 shows how the upright ribs terminate at top, except some nine or ten which continue as high flanges in ordinary Vanessid manner. These are seen bent down flat in Fig. 3, and in Fig. 4 several are seen in profile.

New Species and new Forms of Lepidoptera.

By COUNT EMILIO TURATI, F.E.S., Etc.

I am very pleased to forward short Latin descriptions of a number of new Lepidoptera brought from Sardinia by Mr. Geo. C. Krüger, Custos of my Lepidopterological collection in Milan, who stayed seven months this year on my account in this interesting, and almost unknown, Mediterranean island. Putting aside the butterflies, his attention was almost wholly turned to the moths, and he succeeded to such an extent as to discover eleven new species and twelve new aberrations or local forms of known species; a veritable record for a collector in

the strictly European part of the Palearctic fauna. To record such an achievement the *Entomologist's Record* is, therefore, I believe, the most suitable medium. Further particulars and plates, I will give later on in the *Atti della Società Italiana di Scienze Naturali* of Milan.

EPINEPEHELE TITHONUS, L., FULGENS, n. F.

Forma supra colore flavo-fulvescenti fulgido, marginibus brunneis, nigrescentibus. Subtus magis variegata, apicibus et partibus flavis, sulphureis. ♂ androconii paullulum effusioribus, distincte a venis fulvis intersectis. ♂ et ♀ plerumque pluriocellatis (Forma *excessa*, Tutt). 25 ♂ ♀ Aritzo, mense julio.

OCNERIA KRUEGERI, n. sp.

♂ mm. 33-37, ♀ mm. 40.

Sp. alis anticus rufescentibus, subroseis, strigis tribus transversis sinuatis nigris diffusis, media latiore et aliquantum obliqua. Alis posticus fuscis, roseo villosis; fascia marginali nigrescenti. Ciliis omnibus roseis, fusco intersectis. Subtus omnino fuliginosa, ad basim atque ad margines internos quatuor alarum plus minusve lutescenti-subrosea. Capite et antennis rufo-brunneis; thorace eodem colore, sed juxta occiput subroseo, oculis nudis nigris. Abdomine supra roseo; tribus posticus segmentis, et subtus brunnescenti: linea dorsali vix indicate; erubibus et tibiis lanosis brunnescenti-subroseis; tarsis nudis obscuris, roseo articulatis. ♂ antennis bipectinatis fere duplo crassioribus quam in *atlantica*, Rbr.; debilioribus quam in *lapidicola*, H.S., *urbicola*, Stgr., et *phoenissa*, Stgr.; ♀ longo-ciliatis.

Kruegeri differt ab his speciebus strigarii forma et directione, antennarum constitutione, atque alarum quadratura.

20 ♂ 1 ♀ Gennargentu, alt. m. 1200-1400, mensibus julio et augusto.

Georgio Kruegerio dicata.

AGROTIS (EUXOA) JORDANI, n. sp. et CHALYBAEA, n. F.

♂ mm. 37, ♀ mm. 35-36.

Sp. *Agrotis obscura*, Brahm., aliquot similis, sed alarum structura magis elongata; fere unicolori brunneo-fulvescenti; strigis (proximali et distali) duplicatis, vix perspicuis; linea antemarginali nigra, cuneata satis distincta. Macula orbiculari clariori parva, nigro centrata; reniformi obscurissime expleta et in cellula proximaliter clarus lunulata. Punctis costalibus ante initium lineae antemarginalis tribus lutescentibus. Alis posticus obscure griseo-fumosis; ciliis clarioribus. Thorace et capite concoloribus brunneo-fulvescentibus; palporum articulo extremo lutescente. Abdomine griseo.

♂ antennis lutescentibus biserratis, juxtabasim et posteriore tertio ad verticem imminutis; ♀ filiformibus. Subtus alis concoloribus griseo-lutescentibus ad costam vix obscuratis. Alis posticus linea antemarginali et lunula mediana brunnescentibus. Cruribus brunnescentibus; tarsis luteo articulatis.

2 ♂ 4 ♀ Monte "Cugnada" mense Octobre.

Doctori Karolo Jordano dicata.

Forma CHALYBAEA=colore griseo-glancescenti (*Agrotis senna*, H.S., simili) lineis nigris et fasciis perspicuis.

1 ♀ Monte "Cugnada," mense Octobre.

AGROTIS (LYCOPHOTIA) KERMESINA, MAB., VIRESSENS, n. F.

mm. 34.

Forma alis anticis, thorace et capite concoloribus olivaceis, dilute subroseis. Abdomine paullulum clariore. Alarum ant. lineis transversis perspicuis: proximali atque distali e punctis intercostalibus obscuris constitutis, mediana latiore, biarcuata, et subtermacula reniformi cuspidata: linea submarginali brunnescenti. Maculis: orbiculari obliterata, reniformi fere indistincta, tantum ad cuspidem lineæ medianæ obscure signata.

18 ♂'s hujus formæ cum novem maribus formæ originalis simul capti. Monte "Cugnada," mense Septembre.

BRYOPHILA RAPTRICULOIDES, n. sp. et MARMORATA, n. F.

et MEDIOSTRIGATA, n. F.

mm. 27-28.

Sp. statura ampliore et robustiore quam *raptricula*, Hb., quadatura alarum latiore. Colore cinereo, macula brunnescenti (orbicularem includenti) non diffusa, sed plerumque nitida. Strigis et signaturis distinctis tenuiter virgatis, lunula albicante apud marginem internum. Alis posticis griseo-fusca, non albicantibus. Capite et patagia cinereis.

1 ♂ 3 ♀ Aritzo mensibus junio et julio 1910, 1912. 1 ♀ ex Sicilia "Ficutiae luco," alt. m. 800, mense julio 1909.

Forma MARMORATA=colore brunneo nigrescenti, lunula (aliquot elata), spatio apicali post lineam distalem et spatio postbasilari lacteis, vel sordide albidis.

1 ♀ Aritzo mense julio. 1 ♀ e Corsica jam in mea collectione.

Forma MEDIOSTRIGATA=colore ut *raptriculoides*, sed macula brunnea effusiore, striga nigra in costa media, usque ad cilia prolongata, a lunula alba intersecta.

Forma *raptricula*, Hb., *striata*, Stgr., analoga.

2 ♀'s. Aritzo, mense augusto.

LUPERINA (APAMEA) KRUEGERI, n. sp.

mm. 27-28.

Sp. *Lup. nickerlii*, Frr., et *gneneei*, Dbd., proxima, sed alis anticis minus elongatis, colore ambabus dissimili pallide lutescenti, nigro asperso. Signaturis nigris sed—quamvis iisdem similibus—strigis (proximali et distali) ad marginem internum constrictioribus: proximali bis lunulata non angulata. Maculis (orbiculari et reniformi) distinctis, lutescentibus, non albido cinctis. Fascia antemarginali undulata lutescente cum tribus lineolis nigris sagittatis proximaliter apud apicem e costa dehiscentibus; quot lunulis confuse nigrescentibus juxta marginem internum. Linea marginali lutescenti, et submarginali ex triangulis vel cuspidulis nigerrimis constituta. Ciliis longioribus griseo-intersectis.

Capite thoraceque griseis—lutescentibus, plus minusve nigro, non brunneo, mixtis. Abdomine albescente, alis posticis albido sericeis, vix subluteis, linea marginali tenuissima nigra; ciliis albescentibus, vix puncto nigro et linea antemarginali apparentibus.

Subtus alis omnibus albidis, paullulum, præsertim ad costam, griseo-fusco adspersis. Punctis cellularibus et linea marginali, ut supra, nigris. Antennis dentatis, griseo-lutescentibus. Cruribus